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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/728,027 | 11/30/2000 | Willis John | SIG000064 | 6093 |

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SigmaTel, Inc.
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EXAMINER

LAUTURE, JOSEPH J

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2819

DATE MAILED: 04/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/728,027

Applicant(s)

JOHN, WILLIS

Examiner

Joseph J Lauture

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 November 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

The Information Disclosure Statements filed on 11/30/00 have been considered.

Specification

The application has not been checked to the extent necessary to determine the presence of all possible typographical and grammatical errors. Applicant's cooperation is requested in correcting any errors of which he/she may become aware in the application.

Drawing Objections

The drawings are objected to because the prior art of figure 1 is not labeled as such. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4-5, 8-11 and 12-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 4-5, 8-9 and 12-13, it is unclear what is meant by "a divider". Is that a voltage divider? Clarification is required.

In claim 4, line 4, the limitation of "a divider operably coupled to the input" is confusing. It is unclear which input is being referred to. Clarification is required.

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In claim 10, it is unclear what is meant by "a hybrid circuit" because this term is too broad. Clarification is required.

Line 18 of claim 11 recites the limitation of a "second feedback capacitor" without first referring to a "first feedback capacitor", rendering the claim language confusing.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 11 are rejected as being anticipated by Hong (US 6,147,551).

Hong teaches in figure 5 a switched-capacitor circuit comprising a first capacitor (222), a first voltage reference module (218), a second voltage reference module (215), a first switch (233) operable to couple an input signal to a first plate of the first capacitor, a second switch (221) to couple a first plate of the first capacitor to the second reference voltage module (215), a third switch (232) operable to couple a second plate of the first voltage reference, a fourth switch (223) operable to provide a charge transfer from a second plate of the first capacitor (222) and an operational (262) that includes a first input, a second input and a differential output, wherein the first input is operably coupled to the fourth switching element and the second input operably coupled to the second reference voltage (215), a first feedback capacitor (263) coupled to the first input and the differential output of the operational amplifier, a second feedback

capacitor (262) coupled to the second input and the differential output of the operational amplifier. The above-mentioned components can all be incorporated into a delta-sigma modulator.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-10 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hong (US 6,147,551) in view of Soenen et al (US 6,031,480).

Regarding claims 4-10 and 12-14, Hong discloses the essential features of the claimed invention as set forth above except for a voltage divider circuit coupled to an input signal and a power supply, a comparator to compare the input signal with a reference, a decimation filter, a digital-to-analog converter to produce a transmit signal and an analog-to-digital converter and a second operational amplifier. However, Soenen et al teach in figure 3 an analog-to-digital converter apparatus and method that has a voltage divider circuit coupled to an input signal (20) and a power supply (42), operational amplifiers (32) and (34) to compare an input signal with a reference signal, and in figure 2, a digital-to-analog converter (26) to produce a transmit signal, and an analog-to-digital converter (24). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate these design techniques of Soenen et al into the system of Hong to improve system performance and

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reliability because this would help to decrease circuit area while reducing power consumption and complexity and increasing speed and stability (See column 1, lines 51-53). It would have been further obvious to include a decimation filter in the circuit to reduce the final output code frequency and make the computations more manageable and to have some interface or hybrid circuit to receive and/or transmit a signal.

CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Lauture, whose telephone number is (703) 308-6362. The examiner can normally be reached Monday to Friday between 9:30 am and 6:00 PM

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Tokar can be reached at (703) 305-3493. The fax number for the organization to which this application is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 308-0956

Joseph Lauture
Group: 2819
Date: 11/30/01

Peguy Jeanpierre
PEGUY JEANPIERRE
PRIMARY EXAMINER